Chem124 Syllabus

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Office hours: TBA
Classroom coordinator: Anita Walker (DBH 243; aawalker@rice.edu)

Course Philosophy and Aims:

This course is part of a two semester sequence designed to enhance the material from the general chemistry lecture course and prepare you to enter a scientific research environment. A main focus of the curriculum this semester is how to use data collected in lab to draw conclusions about the subject of inquiry. This second semester course will also involve more laboratory skills than the first semester. The skills (both mental and physical) that you will learn in these courses are applicable to any scientific discipline that you may pursue.

Summary of key information in the syllabus

- *Course schedule* (it's very complicated, so pay attention!)
- *Course requirements* (because this is a LAB class, there are a lot! You have to come to class and turn something in every week; you may also need to buy special materials)
- *Safety policy* (don't hurt yourself! Or me! Or anyone else!)
- *Honor Policy* (it can get a little hazy with lab reports, so be careful)
- *Grading information* (this is what you actually care about! this includes how to request a regrade)

Location and time:

There are 5-6 different sections that meet each week. Most labs will follow a 2-week sequence, with the experiments performed the first week, and a discussion of data analysis taking place in the second week**.** During Lab weeks, students will meet in room 180 DBH for a pre-lab lecture before moving to room 200. Discussion groups will meet in room 210 DBH. During your first lab, you will be assigned to one of 2 discussion groups for your section.

Schedules for each individual section are posted on Canvas. Given the complex nature of the scheduling for this course, it is strongly recommended that you consult YOUR sections' schedule on Canvas.

Course Requirements and Guidelines:

General Requirements:

Attendance is mandatory for every lab and every discussion session (see "Missed Labs" section for details). If you do not attend a lab **OR** a discussion, you will receive zero points for that **entire** lab. **Regardless of the reason for missing lab/discussion, you should absolutely contact Dr. Kincaid ASAP.** It is also the student's responsibility to document his/her attendance by signing in for each lab and discussion (including any make-up sessions). Punctuality is also important**; points will be deducted from your grade for tardiness**. **Extremely late students (>15 minutes) will not be admitted to lab, except at the instructor's discretion.**

Required Materials:

- ✓ Books:
  - Lab Manual-a digital copy is freely available to all students; those wishing to purchase a paper manual may do so (details given in class)
  - Readings are recommended from the same texts as the lecture portion of this course

- ✓ Other materials
  - It is assumed that students have a knee-length lab coat and a carbon copy notebook from CHEM 123; if not, these items may be purchased from the CGSA or other sources; contact Dr. Kincaid for details

Safety Requirements:

Students will not be allowed to work the lab if they fail to meet the lab safety regulations

These regulations are detailed in the safety section of the lab manual, and will be covered in the first class meeting. At the beginning of the semester, you will need to complete a safety quiz Canvas *(under "quizzes")* that you have read and agree to abide by the lab safety rules.

- You must wear the following Personal Protective Equipment (PPE) at all times when working in the lab (no exceptions):
  - Safety glasses/goggles (provided in lab)
  - Long-sleeved, knee-length lab coat
  - Your skin is a target for chemicals, so cover it all up one way or another! You must wear:
    - Clothing that fully covers you to the ankle
    - Closed-toe shoes with backs (perforated shoes or sandals are not allowed)
  - Loose clothing, jewelry, and unrestrained hair may pose additional risk and should be avoided
  - Based on the experiment or procedure, additional PPE such as gloves may be required. Laboratory gloves should only be worn inside the laboratory.
- The instructor or TA must always be physically present for you to work in the lab.
- There will be **absolutely no eating, drinking, or gum chewing** allowed in the lab. It is also strongly recommended that you wash your hands upon leaving the lab to avoid accidental ingestion of chemicals.
- Phones, ipods, etc. are to be silenced or turned off, and left in your bag. Use of phones as calculators poses a risk of contaminating them with chemicals. If you choose to access any of your personal items during lab, remove any gloves before doing so to avoid contaminating your backpack, etc.

Academic requirements-Lab Reports (see Appendix I of the lab manual for full details):

Each lab report consists of up to 4 sections. These are explained in detail in your lab manual, but the key message is that you should expect to have something due every time you show up to lab and discussion. The sections are:

- Pre-lab assignment -due at beginning of lab
  - **Note: Any student who does not hand in a pre-lab assignment will NOT be allowed to perform the lab.**
- Procedure and Data Collection- due at end of lab
- Initial Data analysis- due at beginning of discussion (1 week after experiment)
- Final Report- due at beginning of the next lab (2 weeks after experiment)
- Final reports will be accepted late, with a penalty of 10 pts per day late. All other sections are not accepted late.

Grading:

Each lab will be worth 105 points. These points will *usually* be divided as follows:

- Pre-lab assignment (10 pts)
- Procedure and Data Collection (25 pts)
- Initial Data analysis (20 pts)
- Final Report (40 pts)
- Lab TA points (5 points awarded for safety and tidiness)
- Discussion TA points (5 points awarded for participation)

Regrades:

If you think you were graded incorrectly, you may submit your report for a regrade. **Submit all regrade requests directly to Dr. Kincaid**; do NOT submit a regrade request to your TA. To ensure proper record keeping do NOT write on your original lab report; instead, include a separate (small) sheet of paper with your reasons for requesting a regrade. You have **1 week** after a lab is returned to you to submit a regrade request. Failure on your part to collect a graded report does not ensure that you will be given additional time to request a regrade.

Honor policy: Lab reports fall under the scope of Rice's honor code. Discussion is an important part of the scientific process, and you are encouraged to ***discuss*** the lab with your partner, TAs, and classmates. However, you must write your own report. **Be mindful of the difference between collaboration and copying**. Lab partners must individually write their own reports, including all calculations, conclusions, and graphs. For reference, here are some *limited* examples of what is and isn't OK:

It's **OK** to:

- Share raw data with your lab partner.
- Consult any written source except graded lab reports and keys. Always cite any source used.
- Discuss the approach to analyzing data or solving a problem.
- Discuss and compare your final results.
- Ask your TA for help.

It's **NOT OK** to:

- Report data that you did not measure (unless given permission, and cited appropriately)
- Copy or share computer files, even with your lab partner (except for data files).
- Copy graphs, or print 2 copies of the same graph.
- Copy someone else's calculations.
- Copy answers to problems in the reports.
- Use an answer key to help with analysis/reports

Missed labs:

All labs and discussions are mandatory. If you fail to attend a lab OR discussion, you will receive a zero for the entire lab. It is your responsibility to contact Dr. Kincaid as soon as possible when you miss a lab or discussion.

If your absence is excused, you may make up the lab/discussion during another section. Excused absences include: illness that prevents you from physically attending class and approved university commitments, such as travel for a university competition or special event like a university performance. Exams in other classes do NOT fall under this category. If another instructor schedules an exam during your lab time, you should contact that instructor about rescheduling the exam. Elective personal travel and events such as regular club meetings or sports practice do not count as excused absences.

For approved university commitments, contact Dr. Kincaid at least one week in advance of your absence so that you can reschedule to attend a different section. For unscheduled absences, such as severe illness, contact Dr. Kincaid as soon as you realize you will not be able to attend, and arrangements can be made to make up the lab in another section. In the event that you need to make-up a lab or discussion, please consult the overall schedule to be aware of when other sections are performing the same experiment. (You still need to contact Dr. Kincaid to approve the make-up session.) Please note that for missed labs/discussions as well as make-up lab/discussions, your lab report will still be due at the regularly scheduled time, unless otherwise approved. Also, be sure to sign in to document your attendance.

Regardless of the reason for missing lab/discussion, you should absolutely contact Dr. Kincaid ASAP.

Students under 18:

Your parents or legal guardian are required to sign a "Release and Hold Harmless Agreement" before you can work in the lab. Download this form from Canvas and turn in/send a signed paper copy to Anita Walker. Contact Ms. Walker with any questions. Students who have already submitted a form for CHEM 123 do NOT need to submit a new one.

Special Needs:

Any student with a disability requiring accommodations in this class is strongly encouraged to contact the instructor during the first two weeks of class. This course welcomes students who require a physical accommodation to perform laboratory work, but they need to contact Dr. Kincaid prior to their first lab in order to make sure that all safety standards can be met. All discussions will remain confidential. Students should also contact the Disabled Student Services Office in the Ley Student Center.

Education Research:

This semester the instructors will be conducting a study looking at teaching and learning. The purpose of this study is to determine the factors that influence teaching effectiveness and learning. Your participation in this study will last for the duration of the current semester and will entail activities no different from the regular activities you would otherwise engage in as part of the course. Please contact the course instructors if you would like more information or if you would like to opt out of the study.

Lab topics:

Lab #	Lab Topics
1	Gas Laws
2	Kinetics
3	Equilibrium
4	Intermolecular Forces
5	Simple Acid/Base titration
6	Polyprotic acid titration and Buffers
7	Electrochemistry

This syllabus is subject to change and was last updated by Dr. Kristi Kincaid on 11/21/17.